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ABSTRACT

The results of a survey measuring the knowledge that 173 credentialed educators in selected California four-year public high schools had about the academic entry requirements for California two- and four-year public colleges are presented. College-related information relevant to academic entry requirements is not reaching those students who need it most, and a significant number of students, including minorities, otherwise academically eligible for admission to California two-year and four-year public colleges are not receiving the needed information to make rational career decisions about their educational futures. Sample data for the study were collected via a questionnaire: "The Flow of College-Related Information for Students in High School Settings: An Organizational Perspective." Findings indicate only a small number of the educators sampled were actually knowledgeable about the 1987-88 and 1988-89 academic entry requirements needed to qualify first-time freshmen for California public colleges. Four suggestions for educators are as follows: high schools should establish a specific goal for increasing the number of eligible students continuing on to California public colleges; high schools should try to distribute college information to all credentialed and non-credentialed personnel working with general education, vocational, and college-preparatory level students; educators should be provided factual information to make them aware of the large number of potentially eligible Hispanic/minority students who fail to enter college because of lack of information; and high schools should consider the benefits of modifying the functions of counselors and classroom teachers. Tables are included. Contains 51 references. (SM)

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MONOGRAPH: ASSESSING THE KNOWLEDGE
THAT EDUCATORS HAVE ABOUT COLLEGE-RELATED
INFORMATION FOR STUDENTS IN FOUR-YEAR PUBLIC HIGH SCHOOLS

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ABSTRACT

College-related information, who has this knowledge in high schools? How accurate is the knowledge of high school educators concerning the Academic Subject Requirements for admission to California public colleges? This monograph reports the results of a survey measuring the knowledge that 173 credentialed educators in selected California four-year public high schools had about the academic entry requirements for California two and four-year public colleges. The sample group as a whole, had on the average, a 39% correct rate of response to questions on the 1987-88 and 1988-89 academic subject entry requirements for California public colleges. Specifically, respondents had to identify the exact number of years needed in specified academic subject areas to qualify graduating high school students for admission to the: University of California, California State University and California Community College systems, respectively. The highest average correct response rate (43%) was for academic subject requirements for the University of California system. This was followed by a 41% average correct response rate for academic entry requirements for the California Community Colleges; and finally, the lowest average correct response rate (36%) was for academic

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entry requirements for the California State University system. More important, it was revealed that less than 90% of the total sample group was knowledgeable (i.e., had accurate information) about the academic entry requirements for California two and four-year colleges. For example, 11 respondents (out of 173) had accurate information about the academic subject area requirements for admission to the University of California system; 4 respondents had accurate information about the academic subject requirements for admission to the California State Universities. (It should be noted that only 1 respondent was knowledgeable about the requirements for both four-year systems.) Finally, a total of 8 respondents were knowledgeable about the academic subject requirements for the California Community Colleges. In addition, it was found that fewer educators were knowledgeable about the academic entry requirements for the California State University system. This is the four-year college system for which the vast majority of eligible graduating high school students are academically eligible to attend.

Hence, it was concluded that the majority of educators sampled lacked accurate information about the academic subject requirements for California two and four-year colleges. Moreover, it was determined that further research is warranted to examine possible relationships between the knowledge that high school educators have about college-related information and the extent to which graduating high school students are informed about the academic entry requirements for two and four-year colleges. In sum, a major implication of these findings is that a significant number of students graduating from California public high schools are not receiving the college-related information they need to make important decisions about college.

MONOGRAPH

ASSESSING THE KNOWLEDGE THAT
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ASSESSING THE KNOWLEDGE THAT EDUCATORS HAVE ABOUT COLLEGE-RELATED INFORMATION FOR STUDENTS IN FOUR-YEAR PUBLIC HIGH SCHOOLS

Statement Of The Problem

College-related information relevant to the academic entry requirements of California two and four-year colleges is not reaching those students who need it most (CPEC, 1985; CPEC NEWS, 1986). In particular, a significant number of students, including Hispanics and other minorities, otherwise academically eligible for admission to California two and four-year public colleges are not receiving the information they need to make rational career decisions about their educational futures (CPEC, 1975; CPEC, 1985; College Entrance Examination Board, 1986).

According to Dornbusch and Garet (1983), authors of the theory of information flow perspective:

" Families at all socio-economic levels care a great deal about the progress of their children in school, yet lower status families are often uninformed of the lack of coherence in the sequence of courses their children take. In addition, the extent to which student programs permit access to four-year universities is unknown to many parents who evidence faith that school personnel are taking care of these issues (p. 3)."

Parents, in general, are interested in their children succeeding in life. Often, where parents themselves do not attend or complete high school, their child's graduation from high school is perceived as a major accomplishment. For a significant number of students who are eligible to continue on to college, particularly Hispanics and minorities, a high school diploma is often the end of their education. Unfortunately, the failure of many of these students to continue on to college may simply be a result of their lacking the necessary information to know that college was a real

option. Furthermore, because their families tend to rely on the schools to provide the instruction and information necessary to prepare their children for continuing on to college, they lack the specialized information and are unprepared to assist; nor can they always afford to contract for the private expertise of career counselors.

Moreover, high school counselors, who are normally responsible for providing students with academic guidance and information relevant to their postsecondary education plans, are often perceived as partly responsible for students failing to continue on to college (Education Week, August 29, 1984). Furthermore, assignments of 300 to 500 students, for whom individual counselors are academically responsible, make it unlikely that the needs of all students will receive adequate attention. In addition, critics suggest that counselors, in general, are inadequately prepared to effectively assist the bulk of Hispanic and other minority students who need the assistance to continue on to college (Buriel & Rivera, 1983; College Entrance Examination Board, 1986).

Purpose of the Study

This research is part of a larger study which examined the flow of college-related information about the academic entry requirements for California four-year public colleges using the Dornbusch and Garet theory of information flow perspective. This study examined the following research question:

How knowledgeable are educators, serving in selected four-year California public high schools, about the academic subject entry requirements for admission to California two and four-year public college systems?

Significance of the Problem

This examination of the knowledge that educators have about college-related information has practical significance. The organizational setting in which the study was undertaken has recently come under close scrutiny. With the advent of the report, A Nation at Risk (U.S. Dept. of Education, 1982), public education became a major social concern of the eighties. One aspect of this concern is the significant number of graduating high school students who fail to continue on to college. Moreover, recent studies indicate that a significant percentage of eligible graduating high school students, including a disproportionate number of eligible Hispanic and other minority students, are not entering California four-year colleges and universities (CPEC, 1975; 1985; 1986).

In 1983, a total of 262,160 students graduated from California's public and private high schools. Approximately 254,944 of these students were from California public high schools. Thirteen percent were considered eligible for the University of California system. Twenty-nine percent were eligible for admission to the California State University system (including the 13 percent who were eligible for admission to the University of California system); and since California Community Colleges lack a specific set of academic entry requirements, it can be assumed that all of the graduating students were eligible to enroll into a community college.

Table 1 below provides information on the California graduating class of 1983, by ethnicity, and the percent of students eligible for regular admission to the University of California (UC) and California State Univesity (CSU) systems. It should be noted that graduates from both public and private high schools are included in the data. The ethnic

categories include: Asians, Blacks, Hispanics, Whites, Native Americans, and Other, although statistical information regarding the college eligibility of Native Americans and Others is not available (n/a).

Table 1

Number and Percent of California's
1983 High School Graduates Eligible for Admission
to California Four-Year Public Colleges, in Terms of Ethnicity

Percent of Graduating Class		Percent Eligible for UC system	Percent Eligible for CSU system
<u>Percent & Number Graduating</u>		13.2 (Total eligible)	29.2 (total eligible)
Asian	6.3 (16,043)	26.9 %	22.1
Black	9.1 (23,238)	3.6	6.5
Hispanic	18.1 (43,823)	4.9	10.4
White	64.1 (163,470)	15.5	18.0
Native American	.8	n/a	n/a
Other	1.6	n/a	n/a

N = 254,944 100%

From the CPEC Director's Report, 85-83: "From Ninth Grade Through College Graduation: Who Makes It in California Education" December 1985, pp. 3-6.

Table 2 shows the Fall 1983 first-time freshmen enrollment rates for the University of California (UC), California State University (CSU) and California Community College (CCC) systems, in terms of 1983 California

graduates, by major ethnic groups. Data is presented for the following ethnic categories: American Indians, Asians, Blacks, Filipinos, Hispanics and Whites.

Table 2

1983 First Time Freshmen Enrollment Rates for
California Two and Four-Year Public Colleges, in Terms of
California's High School Graduating Class (by Ethnicity), in Percentages

Student Categories	UC System	CSU System	CCC System
American Indian	.4	.8	1.4
Asian	17.2	11.7	5.6
Black	5.1	7.1	10.0
Filipino	3.1	2.8	2.0
Hispanic	7.7	11.5	15.0
White	66.5	66.1	66.0
N =	18,323	23,250	98,390

From the CPEC Director's Report 85-83: "From Ninth Grade Through College Graduation: Who Makes It in California Education" December 1985, pp. 15-17; and CPEC Information Item: California College-Going Rates: 1983 Update, pp.39-50.

According to the California Postsecondary Education Commission (CPEC, 1985) it was estimated that approximately 8,914 students enrolled in California private universities. In addition, it should be noted that the figures presented in Table 1 and Table 2 include students graduating from

both public and private California high schools. This suggests that 17 percent, of the approximate 41,580 (29.2%) students graduating from California public high schools in 1983, enrolled into California four-year public colleges after graduation, i.e., they enrolled into the University of California and California State University systems.

In addition to traditional socio-economic status indicators (e.g., family income, parents education, etc.), two additional reasons are presented as important determinants influencing both the probability that students attend college and their decision of what type of college they attend. One factor is that student decisions made during high school about "which track to take have major implications for student's later education and career options". It should be noted that by itself, race or ethnicity is not viewed as a significant factor affecting student decisions about college (CPEC 85-86: Director's Report, 1985). The second factor is that certain groups of students, i.e., low income and ethnic minorities (and their families) need to be provided college-related information while in elementary and junior high school as a means of motivating their interest in college (CPEC NEWS, 1986).

While these factors indicate institutional awareness for the need to increase future college enrollment among underrepresented student populations, certain assumptions seem to emerge regarding the nature of problems related to college enrollment patterns of students in general. First, it is assumed that individual students, rather than educational institutions (i.e., the high schools), are responsible for selecting their academic tracks. Second, it is assumed that low-income and ethnic minority students are the only ones needing additional college-related information and additional channels for receiving it (i.e., they do not fully

utilize the information channels already available to them). Hence, it is implied that other eligible, non-ethnic and low income, graduating high school students who do not continue on to college are informed about their eligibility status and consciously select not to continue on to college? If in fact these assumptions are correct, their consequences need to be assessed, since they may serve to discourage future researchers from examining other possible (though not established) factors that affect students' career decisions. The focus of this study, i.e, measuring the knowledge that educators in four-year high schools have about four-year college-entry requirements, might serve as such an example.

In summary, what can be the reason that such large percentages of other wise eligible students fail to comply with the mechanics of two and four-year college admission procedures? Considering that the majority of students, particularly Hispanics, applying to California four-year colleges are declared ineligible, not because of GPA, but because of their failure to complete all required courses in high school, or because they fail to take college entrance exams (CPEC, 1975; 1985; CPEC Director's Report, 1985; CPEC NEWS, 1986); it seems appropriate that the high school environment be selected as the setting for research on this topic.

Moreover, according to Dornbusch and Garett (1983: p. 2)

"Those who would intervene to improve the structure of schools and educational systems, themselves need information concerning the impact of structural factors upon the flow of information among the actors in the system, the barriers to that flow, and why relevant information is often ignored."

Researchers have begun to recognize the need to examine institutional structures and their relationship to the decision-behavior of high school students who by-pass a college education (Duran, 1984;

Rumberger, 1981). It is anticipated that the information flow perspective can very likely provide a significant alternative for examining educational problems faced by students in general.

Definition of Terms

The problem of this study has been expressed as a general survey research question regarding the knowledge that educators have about college-related information. Hence, the question: how knowledgeable are educators, serving in selected four-year public high schools, about the academic subject entry requirements for admission to California two and four-year public colleges?

The definition of terms that follow were offered for the purpose of operationalizing the theoretical elements central to the research question of this study. These are stipulative definitions proposed for clarity and consistency.

1. Educators refers to credentialed personnel working in four-year high school systems (i.e., administrators, counselors, resource and classroom teachers).
2. College-related information refers to information about the number of years required in specific academic subject areas to qualify eligible graduating high school students for admission to the California four-year University systems.
3. Hispanic students refers to students who are identified as Chicano, Mexican, or Mexican American; but may also include students identified as Cuban, Central American, Latino, Puerto Rican or South American.

4. Knowledge refers to the extent to which educators are actually able to correctly identify the number of years needed in specific academic subjects to qualify graduating high school students for admission to California two and four-year colleges.
5. Academic Subject Requirements refers to the academic subject requirements and number of years needed in each subject to qualify graduating high school students for admission to the California two and four-year college systems during the 1987-88 and 1988-89 academic school years.

The number of years needed in specific academic subjects to qualify eligible graduating high school students for admission to California two and four-year colleges are shown in Table 3.

Table 3

Number of Years Needed in Academic Subject Areas to Qualify Eligible Graduating High School Students for: University of California, California State University, and California Community College Systems

Academic Subjects	Years Required For University California System	Years Required For California State University System	Years Required For California Comm. College System
English	4	4	0
Mathematics	3	2	0
Lab Sciences	1	0	0
Foreign Language	2	0	0
Social Studies	1	0	0

Changes in the academic subject entry requirements for admission of first-time freshman to the California State University system took effect in Fall 1988-89. The number of years needed in specific academic subject areas to qualify eligible graduating high school students for admission to the California State University system, effective Fall 1988, are shown in Table 4.

Table 4

Number of Years Needed in Academic Subject Areas to Qualify Graduating High School Students for Admission to the California State University System, Effective Fall 1988-89

Academic Subjects	Number of Years Required
English	4 years
Mathematics	3 years
Lab Science	1 year
Foreign Language	2 years
Social Studies	1 year
Visual/Perform Arts	1 year

Definition of Sample

The sample for this study was comprised of educators from four California four-year public high schools located in the Santa Clara County area. The sample consisted of 173 credentialed educators from the four high schools. The schools, serving approximately 4,500 students, were selected to be part of this study because of their similarity in size and difference in terms of ethnic student populations.

The Knowledge Test

The sample data was collected by means of a questionnaire: The Flow Of College-Related Information For Students In High School Settings: An Organizational Perspective, which was specially constructed for this study. The questionnaire included two items which were designed to measure respondents' actual knowledge about the academic entry requirements of the California State universities and other four and two year college systems.

Question number 27 tests respondents' knowledge of the number of years required in specific academic subject areas to qualify eligible graduating high school students for admission to the University of California, California State University and California Community College systems during the 1987-88 academic school year. For space saving purposes, question number 27, which originally lists the academic subjects and number of possible responses (i.e, number of years) separately under each college system, has been modified to read as follows:

27. To the best of your knowledge, how many years of each of the following academic subject areas do graduating high school students currently need to complete in order to qualify for admission to the: University of California; California State University; and California Community College systems?

	<u>number of years</u>					<u>not sure</u>
English	4	3	2	1	0	ns
mathematics	4	3	2	1	0	ns
laboratory science	4	3	2	1	0	ns
foreign language	4	3	2	1	0	ns
social studies	4	3	2	1	0	ns

Considering the changes which occurred in the entry requirements for the California State University system, question number 28 tests respondents' knowledge of the number of years required in specific academic subject areas to qualify eligible graduating high school students for admission to California State Universities effective Fall 1988-89 (San Francisco Chronicle, 1985; CSU Academic Senator, 1988). Question number 28 read as follows:

28. Changes in the subject requirements for entering the California State University system will take effect in the fall of 1988. How many years in each of these academic subject areas will be required for entering a California State University?

	<u>number of years</u>					<u>not sure</u>
English	4	3	2	1	0	ns
mathematics	4	3	2	1	0	ns
laboratory science	4	3	2	1	0	ns
Foreign Language	4	3	2	1	0	ns
social studies	4	3	2	1	0	ns
visual perform arts	4	3	2	1	0	ns

Hence, responses to questions 27 and 28 served as bench marks for measuring the actual knowledge that respondents had about the academic entry requirements for California two and four-year college systems.

Findings

The data shown in Table 5 provide insight into the pattern of correct responses for each of the specific academic subject areas. The table displays the pattern of correct responses, in percentages, by individual college systems, i.e., the University of California, California State

Table 5

Correct Subject Responses to the 1987-88 two and Four-Year College Subject Entry Requirements, in Percentages.

Curricular Subjects by college System	Actual # of Years Required	Percentage (%) of Correct Subject Responses
<u>Univ. of California</u>		
English (V92)	4	73
Math (V93)	3	47
Lab Sci (V94)	1	13
For Lang (V95)	2	68
Soc Stud (V96)	1	12
N = 173		
<u>Calif. State University</u>		
English (97)	4	59
Math (98)	2	43
Lab Sci (99)	0	02
For Lang (100)	0	14
Soc Stud (101)	0	02
N = 173		
<u>Calif. Comm. Colleges</u>		
English (102)	0	36
Math (103)	0	38
Lab Sci (104)	0	42
For Lang (105)	0	52
Soc Stud (106)	0	36
N = 173		

Universities and the California Community Colleges, respectively. The specific curricular subject areas which respondents were asked to

consider in question #27 were: English, Mathematics (Math), Laboratory Sciences (Lab Sci), Foreign Languages (For Lang), and Social Studies (Soc Stud). Subject areas are listed by variable number. Also indicated in the table are the correct number of years actually required for each academic subject area. (For example, 4 is the correct number of years required in high school English to satisfy the English subject entry requirement for admission to the California State University system.) It should be noted that, for comparison purposes, Table 5 and later tables will also include information about the 1987-88 academic subject entry requirements related to the California Community Colleges. Data analyses will include information which is relevant to California's two and four-year public college systems.

As shown in Table 5, the highest correct response rate for a specific academic subject area, which in this case is English, is 59%. The lowest correct response rate, 02%, is shown for the laboratory sciences and social sciences areas. The subject area for mathematics shows the second highest correct response rate of 47%, followed by foreign languages with a 14% correct response rate.

Table 6 displays data on the total number of respondents correctly identifying the 1987-88 academic subject area requirements of the University of California, the California State University, and the California Community College systems. The data is presented in terms of Correct Response Categories which identify the actual number of items correctly identified by each of the 173 respondent. The range of correct response categories is 0 to 5, with 1 being the minimum number a respondent can correctly identify, and 5 being the maximum. Failure to successfully identify any of the academic subject items correctly is counted as

Table 6

Correct Response Categories for the 1987-88 Academic
Subject Entry Requirements of Two and Four-Year College
Systems, Relative to Number and Percentage of Respondents

Correct Response Categories (0 to 5)	Number of Subject Responses	Percent of Subject Responses
<u>Univ. of Calif. (UC)</u>		
0 (Correct Responses)	27	16
1	22	13
2	58	34
3	46	26
4	09	05
5	11	06
N = 173		100 %
<u>Calif. State Univ. (CSU)</u>		
0	44	25
1	68	40
2	50	29
3	07	04
4	00	00
5	04	02
N = 173		100 %
<u>Calif. Community Coll. (CCC)</u>		
0 (Correct Response)	82	47
1	18	11
2	07	04.5
3	03	02
4	01	00.5
5	62	36
N = 173		100%

0 correct responses. Hence, if a respondent only succeeds in identifying the correct number of years for English (e.g., 4 years), but does not identify the correct number of years for the other academic subject items, that respondent is counted under Correct Subject Response Category 1.

As shown in Table 6, a total of 11 respondents (6%) successfully identified the correct number of years needed in each of the five academic subject areas to satisfy the University of California (UC) system's 1987-88 entry requirements. On the other hand, 27 respondents (16%) failed to identify the correct number of years for any of the academic subject areas.

In terms of the 1987-88 California State University (CSU) system requirements, 4 respondents (2%) correctly identified the number of years needed in each of the five academic subject areas; while 27 respondents (25%) failed to correctly identify any of the academic subject areas. Finally, for the California Community Colleges (CCC), 62 respondents (36%) correctly identified all of the academic subject areas; while 82 (47%) of all respondents failed to correctly identify any of the subject areas. Consequently, 6% of all respondents was knowledgeable about the 1987-88 academic entry requirements for the UC system; 2% of the respondents was knowledgeable about the CSU system requirements; and 36% of the total sample was knowledgeable about the CCC system requirements.

Table 7 provides data on the correct response rates related to the 1988-89 academic subject requirements for the California State University system which correspond to the subject requirement items outlined in question 28 of the questionnaire. The pattern of correct response rates is given in percentages. The specific academic subject items respondents were asked to consider were: English, mathematics

(math), laboratory sciences (lab sci), foreign languages (for lang), social studies (soc stud) and visual/performing arts (visual arts). Academic items are listed by variable number. Also indicated in Table 7 are the correct number of years actually required for each academic subject area. (For example, 4 years of high school English are required to satisfy that specific subject requirement for admission to the California State Universities.

Table 7

Correct Subject Responses to 1988-89 Academic Subject Entry Requirements for California State University System, in Percentages.

Curricular Subjects	Actual # of Years Required	Percentage (%) of Correct Subject Responses
<u>1988-89 Academic Subject Requirements</u>		
English	4	51
Math	3	31
Lab Sci	1	10
For Lang	2	39
Soc Stud	1	10
Visual Arts	1	26

N = 173

As indicated in Table 7, the response rates for the 1988-89 academic subject entry requirements for the California State University system are similar to those shown in Table 6 where the highest correct response rate

is for English. In Table 7, the highest correct response rate of 51% is also for English, while the lowest correct response rate of 10% is shown for the laboratory sciences and social studies items. The second highest correct response rate of 47% is shown for foreign languages, followed by mathematics with a 31% correct response rate. Consequently, the largest number of respondents were familiar with the English requirements, while the least number were knowledgeable about the science and social studies area requirements.

Table 8 displays data on the total number of respondents correctly identifying the 1988-89 academic subject area requirements of the California State University system. The data is presented in terms of Correct Response Categories which identify the actual number of items correctly identified by each of the 173 respondent. The range of correct response categories is 0 to 6, with 1 being the minimum number a respondent can correctly identify, and 6 being the maximum number each respondent can correctly identify. Failure to successfully identify any of the six academic subject items correctly is counted as 0 correct responses. For example, as previously noted, if a respondent only succeeds in identifying the correct number of years for one item (e.g., 4 years for English), that respondent is counted under Correct Response Category number 1.

As indicated in Table 8, a total of 8 respondents (5%) successfully identified the correct number of years needed in each of the six academic subject areas to satisfy the 1988-89 California State University system entry requirements. On the other hand, 73 respondents (42%) failed to identify the correct number of years for any of the academic subject areas. Consequently, 8 of the total 173 respondents were knowledgeable about

the 1988-89 academic entry requirements for the California State University system.

Table 8

Correct Response Categories for the 1988-89 Academic Subject Entry Requirements for the California State University System, Relative to Number and Percentage of Respondents

Correct Responses Categories (0 to 5)	Number of Subject Responses	Percent of Subject Responses
0 (Correct Responses)	73	42
1	15	09
2	28	16
3	32	18
4	12	07
5	05	03
6	08	05
N = 173		100%

Table 9 shows the correct response rates for academic subject areas, in percentages, by individual school (i.e., Schools A, B, C and D). The table provides information which allows comparison between the response rates of respondents from each of the four sampled high schools. Because response rates for the 1987-88 academic subject requirements of each of the college systems are similar, information in Table 8 is limited to the academic subject items relevant to the California State University system.

Table 9

Correct Subject Response Rates for Academic
Subject Requirements of the 1987-88 California State
University System by Individual High School, in percentages

Academic Subjects	Number of Years Required	Percent of Correct Responses by School			
		School A	School B	School C	School D
English	4	85	38	22	79
Math	2	62	33	53	38
Lab Sci	0	05	00	03	03
For. Lang	0	24	10	22	03
Soc. Stud	0	05	00	03	03

N = 173

As indicated in Table 9, except for School C, respondents were more knowledgeable about the English subject requirement (38 to 85% correct response rates), followed by math with a 33 to 62% correct response rate. (For school C the high response rate is for math (53%), followed by English with a 22% rate.) Moreover, consistent with the general findings of the study, the lowest correct response rates (0 to 5%), in each of the selected schools, are for academic subject areas lab sciences and social studies.

Table 10 shows the total number of respondents correctly identifying the 1987-88 academic subject area requirements for the California two and four-year college systems; i.e., for the University of California, California State University and California Community College systems. The data is presented in terms of Correct Response Categories which identify the actual number of items correctly identified by respondents, by individual high schools (i.e., Schools A, B, C and D). The

range of correct response categories is 0 to 5, with 1 being the minimum number of items a respondent could correctly identify, and 5 being the maximum number of items each respondent might correctly identify. Failure to successfully identify one of the five academic subject items correctly is counted as 0 correct responses. For example, as previously noted, if a respondent only succeeds in identifying the correct number of years for one item (e.g., a respondent correctly identifies 4 years for English), that respondent is counted under Correct Response Category number 1.

As shown in Table 10, School A had the highest percent of respondents under Correct Response Category number 5 for each of the three college systems (i.e., they had the highest percent of respondents whose information about the three systems was accurate). Hence, 7.7% of the respondents in School A successfully identified the correct number of years needed in each of the academic subject areas to qualify graduating high school students for admission to the University of California (UC) system; 5.1% of the respondents in School A identified the correct number of years required for admission to the California State University (CSU) system; and 38.5% of School A respondents successfully identified the number of years needed in each of the academic subject areas to satisfy the admission requirements for local California Community Colleges (CCC). In addition, School A also shows the lowest percent of respondents who fail to correctly identify the number of years for any of the academic subject items.

Table 10

Correct Response Categories for the 1987-88 Academic
Subject Entry Requirements for California Two and Four-Year College
Systems, Relative to Number and Percent of Respondents by Individual Schools

Correct Response Categories (0 to 5) by College System	Number and Percent of Respondents Counted in Each Correct Response Category by Individual Sample School							
	School A		School B		School C		School D	
<u>Univ. of Calif. (UC)</u>	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)
0 (Correct Response)	02	05.1	14	20.6	06	16.7	05	16.7
1	03	07.7	10	14.7	06	16.7	03	10.
2	12	30.8	23	33.8	11	30.6	12	40.
3	15	38.5	15	22.1	10	27.8	06	20.
4	04	10.3	02	02.9	02	05.6	01	03.3
5	03	07.7	04	05.9	01	02.8	03	10.
<u>Calif. State Univ. (CSU)</u>								
0 (Correct Response)	02	05.1	28	41.2	08	22.2	06	20.
1	14	35.9	30	44.1	10	27.8	14	46.7
2	17	43.6	09	13.2	15	41.7	09	30.
3	04	10.3	01	01.5	02	05.6	00	00.
4	00	00.	00	00.	00	00.	00	00.
5	02	05.1	00	00.	01	02.8	01	03.3
<u>Calif. Community Coll. (CCC)</u>								
0 (Correct Response)	16	41.	34	50.	17	47.2	15	50.
1	05	12.8	07	10.3	05	13.9	01	03.3
2	01	02.6	02	02.9	01	02.8	03	10.
3	01	02.6	00	00.	01	02.8	01	03.3
4	01	02.6	00	00.	00	00.	00	00.
5	15	38.5	25	36.8	12	33.3	10	33.3
N= 39 100%		N= 68 100%		N= 36 100%		N= 30 100%		

Table 10 also shows that School C had the lowest percent of respondents (2.8%) who were knowledgeable about the academic subject requirements for University of California system. School B shows the lowest percent (0%) of knowledgeable respondents in terms of the academic subject entry requirements for the California State University system, with School C showing the second lowest percent (2.8%). In sum, Table 10 indicates that a total of 11 respondents were knowledgeable about the academic subject entry requirements for the University of California; 4 respondents were knowledgeable about the California State University academic subject entry requirements; and 62 respondents were knowledgeable about the academic subject entry requirements for California Community Colleges.

Table 11 shows the combined Correct Response Categories, by individual schools, for the 1987-88 academic subject entry requirements, for the University of California and California State University systems. Instead of five categories listed separately for each four-year system, they are combined into ten Correct Response Categories (0 to 10) to show the number of respondents who were actually knowledgeable about the admission requirements of both systems. In other words, respondents listed under Correct Response Category number 10 are those who were actually knowledgeable about the academic subject areas needed to satisfy admission requirements for both the University of California and California State University systems.

As indicated in Table 11, of the total sample, one respondent from School D correctly identified the number of years needed in each of the academic subject areas required for first-year freshman admission to both the University of California and California State University systems during

Table 11

Combined Correct Response Categories for the 1987-88 Academic
Subject Entry Requirements for the University of California and California State
University Systems, Relative to Number and Percentage of Respondents by Individual Schools

Correct Response Categories (0 to 10)	Number and Percent of Respondents Counted in Each Correct Response Category by Individual Sample School							
	School A		School B		School C		School D	
Four-Year Colleges UC & CSU Combined	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)
0 (Correct Response)	02	05.1	12	17.6	06	16.7	04	13.3
1	00	00.	05	07.4	02	05.6	02	06.7
2	01	02.6	12	17.6	02	05.6	01	03.3
3	04	10.3	19	27.9	07	19.4	07	23.3
4	15	38.5	13	19.1	08	22.2	10	33.3
5	09	23.1	01	01.5	07	19.4	04	13.3
6	06	15.4	05	07.4	02	05.6	01	03.3
7	00	00.	01	01.5	01	02.8	00	00.
8	00	00.	00	00.	00	00.	00	00.
9	02	05.1	00	00.	01	02.8	00	00.
10	00	00.	00	00.	00	00.	01	03.3
N= 39 100%		N= 68 100%		N= 36 100%		N= 30 100%		

the 1987-88 academic year. Hence, 98% of the 173 respondents sampled were not knowledgeable about the academic subject entry requirements for both California four-year college systems.

Table 12 shows the Correct Response Categories for the 1988-89 academic subject area requirements for the California State University system. Similar to the data presented in Tables 9, the data in Table 11 is presented in terms of Correct Response Categories which identify the actual number of items correctly identified by respondents, by individual

high schools (i.e., Schools A, B, C and D). The range of correct response categories is 0 to 6, with 1 being the minimum number a respondent could correctly identify, and 5 being the maximum. Failure to successfully identify any of the six academic subject items correctly is counted as 0 correct responses. For example, as previously noted, if a respondent only succeeds in identifying the correct number of years for one item (e.g., 4 years of English), that respondent is counted under Correct Response Category number 1.

Table 12

Correct Response Categories for the 1988-89 Academic Subject Entry Requirements for the California State University System, Relative to Number and Percent of Respondents, by Individual School

Correct Response Categories (0 to 5) by College System	Number and Percent of Respondents Counted in Each <u>Correct Response Category by Individual Sample School</u>							
	School A		School B		School C		School D	
<u>Calif. State Univ. (1988-89)</u>								
0 (Correct Response)	11	28.2	40	58.8	12	33.3	10	33.3
1	04	10.3	04	05.9	05	13.9	02	06.7
2	07	17.9	08	11.8	06	16.7	07	23.3
3	10	25.6	12	17.6	05	13.9	05	16.7
4	02	05.1	00	00.	07	19.4	03	10.
5	03	07.7	01	01.5	00	00.	01	03.3
6	02	05.1	03	04.4	01	02.8	02	06.7
	N= 39 100%		N= 68 100%		N= 36 100%		N= 30 100%	

As indicated in Table 12, School D had the highest percent (6.7%) of respondents knowledgeable about the number of years needed in each of the specific academic subject areas to satisfy the 1988-89 admission requirements for the California State University system. The lowest percent of respondents (2.8%) knowledgeable about the 1988-89 California State University subject entry requirements was registered by School C.

Table 12 also shows that 8 respondents, of the total sample of 173, had accurate information about the academic subject areas needed to satisfy the 1988-89 admission requirements for the California State University system. Hence, 96% of the 173 respondents sampled did not have accurate information about the proposed 1988-89 academic subject entry requirements the California State University system.

An interesting point to consider is that Schools A and C did not have school counselors during the time of this study. District budget cuts were cited as the main reason for not having counselors in School C. On the other hand, according to the principal in School A, administrators and faculty had previously determined, several years prior to this study, to formally distribute the counseling function, which included college career-advisement, among all faculty members. School A had the lowest enrollment of minority students; while School D was composed mainly of minority students, the majority being Hispanic.

In summary, the findings of this study show that a small number of the educators sampled were actually knowledgeable about the 1987-88 and 1988-89 academic entry requirements needed to qualify first-time freshman for California two and four-year public colleges. It was also revealed that the highest correct response rates were for the academic subject English followed by math and foreign languages; while the lowest

correct response rates were for academic subjects laboratory sciences and social studies. Furthermore, it was found that approximately 6% of the sampled population was knowledgeable about the, then proposed, 1988-89 academic subject entry requirements for admission to the California State Universities (CSU). It should be noted that the 1988-89 changes in the CSU entrance requirements, with exception of high school GPAs and college entrance exam scores, made the academic subject entry requirements for the California State University system similar to those of the University of California (refer to Table 3), about which more respondents were knowledgeable. These similarities in the academic admission requirements of the two systems may help explain why more respondents were knowledgeable about the California State University system's proposed 1988-89 academic subject entry requirements than were about the current 1987-88 requirements.

Implications for Students

In light of the findings that educators in four-year public high schools lack knowledge about the academic entry requirements for California two and four-year public colleges, serious questions arise. For example, why is it that in 1983 less than 50% of the eligible graduating high school students continued on to college? Furthermore, why is it that such a large proportion of the students (50% or more) who applied to California four-year colleges were determined ineligible because of failing to take one or more courses while in high school or for failing to take a college entrance exam (CPEC Report, 1985; CPEC Director's Report, 1985). Is it possible that many of these students fail to continue on to college simply because they lack adequate college-related information?

This question might seem overly simple. Yet, major California Postsecondary Education Commission (CPEC) reports and studies on first-year college enrollment patterns of eligible graduating high school students do not examine this point as a possible explanation for why many of eligible graduates fail to continue on to college. (It should be noted that CPEC is the primary California State body responsible for monitoring California public college enrollment patterns and is the principal author of the major studies in this area.) On the contrary, CPEC reports, when addressing the problem of eligible students not continuing on to college, tend to perceive the question from traditional social science perspectives; i.e., they tend to suggest that the failure of students to continue on to college is due to their personal and individual career choices.

For example, in terms of academic preparation, researchers tend to assume that students select their own academic tracks when entering high school. In doing so they ignore the role that institutional actors (i.e., counselors, teachers and administrators) play in making such determinations. Furthermore, aside from traditional socio-economic factors (e.g., family income, parent education, and cost of education), CPEC researchers suggest that graduating students, particularly low and moderate academic achievers, might fail to attend college because of personal and conscious decisions to "enter the work force, a job training program, or the armed forces" (CPEC; Director's Report; 1985). The finding of this study strongly suggest that the knowledge educators have about college-related information may play a significant role in determining whether many eligible high school graduates continue on to California two and four-year public colleges; and in particular, the

knowledge of educators may determine whether eligible students continue on to the California State University system.

In addition, considering that a large percentage of graduating high school students do succeed in continuing on to four-year colleges, where do they get their information? Are high school educators who have access to college-related information able to retrieve it when necessary, i.e., when they perceive it important? or, is it possible that certain student populations, as opposed to the general student community, operate in "information rich environments" (Rogers & Rogers, 1976; Mc Clure, 1978) in which they have alternative channels (i.e., other students, family members or friends) of college-related information available to draw from (The College Board, 1986)?

The implication for Hispanic and other low status minority student populations whose lack of representation in California four-year public colleges is currently the subject of controversy is serious. Recognizing that "Those who need the most help get the least in schools"; and moreover, that minority students often comprise the bulk of populations most in need of academic assistance and career advisement (College Entrance Examination Board, 1986), the likelihood of these students receiving critical college-related information from those educators with whom they have the greatest contact is slim.

Furthermore, according to the 1973 US Civil Rights Commission Report and Laosa (1977b; 1983), teachers' perceptions of students' personal attributes, such as ethnicity, language proficiency and academic ability, can negatively determine the degree and quality of interaction between them. Most minority students are usually affected by at least one of these attributes; while Hispanics are often negatively affected by

all three (Kagan & Buriel, 1977; Buriel & Rivera, 1982; Ramirez & Castaneda, 1977). Consequently, the quality and exchange of relevant information between educators and these students will be affected.

The problem is compounded in that educators are less informed about the academic entry requirements of the California State University system than they are about the University of California. The four-year California State Universities are academically and geographically most accessible to the majority of students, and in particular to Hispanic and minority students. This means that while a significant number of students lack adequate counseling and advisement for admission to the University of California system, the majority of students (particularly Hispanics and Blacks), are less apt to receive correct information for the California State University system (Buriel & Rivera, 1982; The College Board, 1986). Hence, we can anticipate that the problem of inadequate, and perhaps inaccurate, flow of academic information related to California four-year public colleges will be heightened by the recent changes in the academic entry requirements for both systems.

In sum, whatever the conditions leading to the results of the CPEC reports, the findings of this study indicate that these conditions, in part, might well result, in part, from the differentiated flow of college-related information to educators in four-year public high school settings. Furthermore, the 1983 policy decisions of both the University of California and California State University systems, requiring that all high school college-preparatory courses be coded with the symbol "P" (CSU REVIEW, Vol. 6, 1987), may serve to reinforce the tendency of high schools to consciously channel, and thereby limit, college-related information to only those educators participating college-oriented programs.

Suggestions for Educators

Ultimately, in accordance with the theory of information flow perspective, to manage change in the decision behavior of organizational actors, we must take into consideration those structures which determine the type and quality of information they receive. Thus, to positively effect a change in the number of students who successfully continue on to California State Universities, we must first insure that high school educators become more knowledgeable about four-year college-related information. However, according to March and Simon (1958), information is only as meaningful as its perceived utility, i.e., as meaningful as the perceived rewards and penalties which actors attach to the information. Therefore, one necessary modification is the need to improve the extent to which educators perceive and understand the relevance of college-related information for their students. The following suggestions may assist administrators, counselors and teachers alike to implement, test and evaluate new strategies designed to enhance the opportunities of graduating high school students to gain admittance to California four-year public colleges. These suggestions are put forth with the goal of increasing educators knowledge about the academic entry requirements for California two and four-year public colleges. Hence, the suggestions follow:

1. According to Bardach (1984), "context dependency", i.e., the extent to which information is perceived relevant to a situation, is central to the distribution and consumption of information. Hence, the extent to which educators attribute importance to a specific task determines the value of information relevant to that task. As a first step towards initiating a sense of organizational context

dependency, high schools should establish a specific goal for increasing the number of eligible students continuing on to California two and four-year public colleges. Second, educators should be provided information regarding the success and failure experience of students applying for admission to California two and four-year institutions. In other words, what percent of all students applying are admitted; what percent is found ineligible, and for what reasons. This type of information will help educators better understand the nature of problems faced by many students attempting to continue their education beyond high school. Specific information related to the college application and admission experiences of Hispanic and other minority students may also help educators, in general, develop a greater appreciation for the historical concerns expressed by these communities.

2. In efforts to increase the knowledge that educators have about the academic entry requirements of two and four-year public colleges, high schools should attempt to distribute college-information to all credentialed and non-credentialed personnel working with general-education/vocational and college-preparatory level students. The dissemination and up-dating of college-related information can be augmented through annual inservice training provided by personnel from nearby two and four-year public colleges.
3. According to Kiesler and Sproull (1982), organizational actors often operate on the basis of mental representations of the world that are consistent with their perceptions of what was, rather than what is. Hence, since Hispanic and other minority students have historically been perceived as low academic achievers, educators assigned to serve

been perceived as low academic achievers, educators assigned to serve these student populations are apt to perceive remedial-oriented information as more salient and worth searching for than is college-related information.

As a remedy, educators should be provided factual information to make them aware of the large number of potentially eligible Hispanic/minority students who fail to enter California four-year colleges because they lack information regarding college academic entry requirements. In addition, educators should be informed and reminded of the potential rewards schools are eligible for when successfully increasing the number of graduating students applying for and being admitted to four-year public colleges.

4. High schools should consider the benefits of modifying the functions of counselors and classroom teachers (College Board, 1986). The inclusion of classroom teachers, who spend the greatest amount of assigned time with students, to share in the function of career advisement of students would free counselors to perform other important functions (Stanford Educator, 1986). For example, counselors could be trained in the techniques of survey research for the purpose of learning about and better understanding the cultural and academic experiences of different student populations in their schools. In addition, having new information about the diverse academic and cultural needs of students, counselors can better serve as in-house resource people for faculty in-service and individual assistance.

It is impossible to generalize the findings of this study to all high school settings. But there is ample evidence to indicate a critical relationship between the extent to which high school educators are

knowledgeable about college-related information and (1) the number of eligible graduating students not continuing on to college; and (2) the success of eligible graduating students to enter California four-year public colleges. Moreover, from a policy point of view, the evidence supports the need for additional research measuring the flow of college-related information to educators in public high schools and their actual knowledge of current and proposed college-entry requirements. Although much of this information can be gathered on-site by school personnel, it is in the interest of local, regional and state agencies to have such information available for future research. Furthermore, since this kind of information is closely linked to, and may serve to compliment the information currently provided by the California Postsecondary Commission (CPEC) reports, it would be appropriate that such research be conducted under the auspices of the CPEC office. The specially designed questionnaire, A Study Of The Flow Of College-Related Information For Students In High School Settings: An Organizational Perspective (Carrasco, 1988), provides a model for conducting research on college-related information flow and for measuring the knowledge of educators.

Suggestions for Additional Research

This section sets forth a series of related suggestions, some in question format, for future investigation.

1. The most apparent problem revealed by this study is the need for further investigation of the knowledge that educators, in high school settings, have about college related information for California two and four-year public colleges.
2. Research is needed to measure the knowledge that high school

students, particularly those students graduating, have about the academic entry requirements for two and four-year public colleges. Students' knowledge about their own academic eligibility for college would also be important.

3. Hanser and Muchinsky (1976) suggest that the willingness of actors to participate in designated activities is influenced by the extent to which such tasks are condoned by their superiors. Hence, an item for further research is the extent to which local high school administrators consider student career-advisement as part of the organizational responsibility of educators; and the extent to which educators perceive themselves responsible.
4. A similar analysis is needed to measure the relationship between how educators perceive the college-related needs of students and the importance they (educators) attribute to this information. Such information would provide additional insight into whether differences exist between the organizational and informal perceptions of educators when it comes to considering the college-related needs of different ethnic student populations. In short, what are the effects of educators' perceptions regarding the academic needs of assigned students and the importance they (educators) attribute to college-related information?
5. Janowitz and Delany (1957) state that the length of time (i.e., the number of years) actors have working in large-scale organizations affects the extent to which they are knowledgeable about the needs of clients. Hence, the question, to what extent does the length of time educators serve in schools affect the knowledge they have about college-related information?

6. The 1973 US Commission On Civil Rights report inferred that the classroom communication patterns between teachers and Hispanic (Chicano) students were distinctly different from the classroom communication patterns between teachers and Anglo students. What affect does the race/ethnicity of educators have on their knowledge about college-related information?
7. Similarly, it would be useful to investigate how gender influences the knowledge educators have about college-related information.
8. According to Bardach (1984), actors searching for job related information are more likely to seek it from others who are closely situated. To what extent do educators rely on contiguously situated colleagues as important sources of college-related information? In other words, where do they get their information?
9. Bardach also intimates that the time required to retrieve information, i.e., the costs involved, can influence the willingness of actors to acquire information. What affect does receiving or not receiving college-related information have on the amount of knowledge educators have about college-related information?
10. In addition, what affect does age have on the knowledge that educators have about college-related information.
11. March and Simon (1958) and Bardach (1984) suggest that inappropriate decisions can be reached when relevant information is **lacking**. What are the affects of information deficiency on the career choices of graduating high school students who are eligible to apply for entrance to California four-year public colleges?
12. If educators lack appropriate knowledge about the academic entry requirements for California two and four-year public colleges, where

do students who succeed in entering four-year college systems receive the correct information?

13. From which educators do Hispanic and other minority high school students seek college-related information?
14. What influences, if any, do colleges of education have on preparing educators to identify important cultural factors for motivating eligible minority students to continue on to four-year colleges?
15. How can educational institutions, at whatever level, design and develop systems that will increase the number of Hispanic and other low-status minority students who are eligible to enter California two and four-year public colleges (CSU Stateline, 1987)?

Summary

The findings of this study provide evidence to suggest that educators in California public high schools are not adequately informed about college-related information. Hence, this study adduces evidence to support the thesis that many qualified high school graduates do not continue on to college because they lack college-related information.

Moreover, the evidence indicates that educators tend to be more knowledgeable about the academic entry requirements for the University of California system, than they are about the California State University system. Since twice the number of graduating high school students are eligible for the California State Universities, and since most all graduating students are eligible to attend California Community Colleges, the limited knowledge that educators have about the entry requirements for these systems compounds the urgency of the problem.

In sum, the most significant aspect of this study is that it

provides new information and insight for assessing the value of the new theory of information flow perspective; and, consequently, the study brings new information to the field of organization theory. In addition, this study provides a new and innovative approach for examining historical problems related to issues of low enrollment patterns of certain ethnic and low-income student groups (particularly among Blacks and Hispanics) into California's two and four-year public college systems. Given time and application, the Dornbusch and Garett theory of information flow should prove a valuable alternative to older traditional perspectives for examining some of the human problems plaguing educators and students in our schools today.

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